

WORK - Work-File Assignments

This Natural profile parameter is for:

- Mainframes
- UNIX and Windows

Mainframes

This Natural profile parameter allows you to define the work files to be used during the session. Within a session, up to 32 logical work files (numbered 1 to 32) can be used.

WORK corresponds to the NETWORK macro in the parameter module and can be used to specify dynamically the same keyword subparameters which you can specify statically with the NETWORK macro. To provide different work file definitions, WORK or NETWORK can be specified multiple times.

Possible settings		See Keyword Subparameters below.
Default setting	See below.	
Dynamic specification	YES	The parameter WORK can only be specified dynamically. In NATPARM, the macro NETWORK must be used.
Specification within session	NO	

The software components for accessing work files in different environments are called access methods. For the duration of a Natural session, each logical work file can be assigned to one access method only. The access method for a work file is determined by the keyword subparameter AM (see below).

Under OS/390 TSO and in batch mode, work files need not be predefined in the JCL. Provided they are defined by subparameter AM=STD, they can be allocated dynamically during the session by a Natural program using the DEFINE statement or user exit USR2021.

This document covers the following topics:

- WORK Parameter Syntax
- NETWORK Macro Syntax
- Keyword Parameters for All Environments
- Keyword Parameters for AM=STD in All Environments
- Keyword Parameters for AM=STD in OS/390 Environments
- Keyword Parameters for AM=STD in VSE/ESA Environments
- Keyword Parameters for AM=STD in BS2000/OSD Environments
- Parameters for AM=CICS
- Keyword Parameters for AM=COMP (Com-plete)

WORK Parameter Syntax

With the WORK parameter, you first specify one or more logical work file numbers, and then several keyword subparameters, which define the characteristics for these work files:

WORK=(*work-file-numbers*),*keyword-subparameters*,...)

work-file-numbers

The file numbers must be specified first and enclosed in parentheses. The numbers can be from 0 to 31. They can be specified in any sequence. Multiple numbers must be separated from one another by commas or blanks. To specify a range of numbers, you can use a hyphen (-).

keyword-subparameters

The various types of keyword subparameters are described below.

For work files with different characteristics, you specify different WORK parameters. If any previous definition (or default) for the same work file exists, the value for the specified keyword subparameters are overwritten only, all other values remain unchanged.

Examples:

```
WORK=( ( 2 , 12 , 18 ) , AM=STD , DEST= ' WORK ** ' )
WORK=( ( 1 , 3 , 6-11 , 15 ) , AM=COMP , OPEN=INITOBJ , CLOSE=CMD )
```

NETWORK Macro Syntax

With an NETWORK macro, you first specify one or more logical work file numbers, and then several keyword subparameters, which define the characteristics for these work files:

NETWORK (*work-file-numbers*),*keyword-subparameters*,...

work-file-numbers

The file numbers must be specified first and enclosed in parentheses. The numbers can be from 0 to 31. They can be specified in any sequence. Multiple numbers must be separated from one another by commas. To specify a range of numbers, you can use a hyphen (-).

keyword-subparameters

The various types of keyword subparameters are described below.

For work files with different characteristics, you specify different NETWORK macros.

Examples:

```
NETWORK ( 2 , 12 , 18 ) , AM=STD , DEST= ' WORK ** '
NETWORK ( 1 , 3 , 6-11 , 15 ) , AM=COMP , OPEN=INITOBJ , CLOSE=CMD
```

Keyword Subparameters for All Environments

The following keyword subparameters are available: AM | DEST | OPEN | CLOSE | TRUNC | PAD | PADCHRO | PADCHRI

AM - Type of Access Method

AM=xxx specifies the type of access method to be used.

For an online session, all work files to be used have to be assigned to a specific access method.

For a batch session, any work files not assigned to a specific access method will be automatically detected and assigned by the standard batch access method (AM=STD), provided that they have been predefined in the JCL. See also FAMSTD - Overwriting of Print and Work File Access Method Assignments.

STD	Standard sequential files (batch, TSO, TIAM, CMS OS simulation).
COMP	Com-plete work files.
CICS	CICS transient data or temporary storage.
CMS	CMS Disk and SFS files.
PC	Entire Connection.
USER	Third-party vendor work-file interface.
OFF	Unassigned. No automatic assignments if FAMSTD=OFF is set.
0	Unassigned. Automatic assignments if FAMSTD=OFF is set. This is the default value.

Note:

WORK=OFF is equivalent to: WORK=((1-32)), AM=OFF).

It does not affect any of the other keyword subparameter specifications.

DEST - External Dataset Name

DEST=name specifies the external dataset name (1 - 8 characters).

This corresponds to the *operand1* of the DEFINE WORK FILE statement (and can be overwritten by a DEFINE WORK FILE specification).

The meaning of this keyword subparameter depends on the access method.

AM=STD	<p>DEST is the logical dataset name (DDNAME, LINK name, DTF name).</p> <p>If the destination is to be for multiple files, two asterisks (**) have to be specified for the file number. These will be replaced by the corresponding logical file number for each work file. A DEST value including two asterisks must be enclosed in apostrophes when using it as a dynamic parameter.</p> <p>The default value is DEST='CMWKF***' for IBM and DEST='W***' for SIEMENS environments.</p>
Under CICS:	There is no default value for work files under CICS. Here, the DEST subparameter is mandatory; that is, CICS work files defined without a valid DEST specification are ignored.
Under CMS:	For usage of DEST under CMS, refer to Natural under VM/CMS (in the Natural Operations for mainframes documentation).
Under VSE/ESA:	Only 7-character names are supported.

OPEN - Time of File Opening

OPEN=xxx determines when the file is to be opened:

Value	The file is opened
INIT	for output at session initialization.
OBF	according to the default OPEN value for the different environments (Batch, CICS, Com-plete, TSO).
OBJ	when the execution of the first object which accesses the file starts. This is the default value.
INITOBF	for output at session initialization. Any subsequent re-opening of the file sets the default OPEN value for the different environments (Batch, CICS, Com-plete, TSO).
OBJ1	when the execution of the first object on level 1 which accesses the file starts. Otherwise, it is opened when it is first accessed.
ACC	when it is first accessed by a statement.
INITOBJ	for output at session initialization. Any subsequent re-opening of the file will be performed when the execution of the first object which accesses the file starts.
INITOBJ1	when the execution of the first object on level 1 which accesses the file starts. Otherwise, it is opened when it is first accessed.
INITACC	for output at session initialization. Any subsequent re-opening of the file will be performed when it is first accessed by a statement.

CLOSE - Time of File Closure

CLOSE=xxx determines when the file is to be closed:

Value	The file is closed
OBJ	either when processing of the object in which it was first accessed is finished, or when command mode, NEXT mode or MAINMENU is reached.
CMD	when command mode, NEXT mode or MAINMENU is reached. This is the default value.
FIN	at session end. With CLOSE=FIN, a DEFINE WORK FILE statement causes an error if the work file was opened already. A CLOSE WORK FILE statement for the work file is ignored. When the end-of-file condition occurs during the READ WORK FILE statement, Natural closes the work file immediately.
CLOSE=USER	This value specifies that a work file is closed only if the file is open and one of the following conditions is true: <ul style="list-style-type: none"> • a CLOSE WORK FILE statement is issued, • a DEFINE WORK FILE statement is issued, • at session termination.

TRUNC - Truncation of Output Records

TRUNC=ON/OFF determines whether the output records are truncated or not:

ON	Output records that are longer than the record length (LRECL) of the dataset will be truncated.
OFF	Error NAT1512 will be issued if an output record is longer than the dataset record length. This is the default value.

PAD - Padding of Output Records

PAD=ON/OFF determines whether the output records are padded with blanks or not (applies only to datasets of fixed record length):

ON	Output records that are shorter than the record length (LRECL) of the dataset will be padded with padding characters defined by keyword subparameter PADCHRO. This is the default value.
OFF	Error NAT1510 will be issued if an output record is shorter than the dataset record length.

PADCHRO - Padding Character of Output Records

This subparameter defines the character which is used for padding if PAD=ON is defined for the work file.

Possible values:	'x' (one character <i>x</i> within single quotes) x'xx' (one hex character <i>xx</i>)
Default value:	x'00'

WORK Keyword Subparameters for AM=STD in All Environments

The following keyword subparameters are available: RECFM | BLKSIZE | LRECL | TRUNC | PAD

RECFM - Default Record Format of Dataset

RECFM=xxxx determines the default record format of the dataset.

The following formats are supported:

F	Fixed
V	Variable
U	Undefined
B	Blocked
S	Spanned
A	ASA
M	Machine control characters

The following values and also combinations of values are possible:

Possible value:	F, FA, FM, FB, FBA, FBM, V, VA, VM, VB, VBA, VBM, VBS, VBSA, VBSM, U, UA, UM.
Default value:	RECFM=VB (variable blocked).

The RECFM specification only applies if no record format is predefined in the JCL or in the dataset DCB (OS/390 only).

BLKSIZE - Default Block Size of Dataset

BLKSIZE=*nnnnn* determines the default block size (in bytes) of the dataset.

Possible values:	0, or 8 to 32767.
Default value:	4628

The BLKSIZE specification only applies if no block size is predefined in the JCL or in the dataset DCB (OS/390 only).

LRECL - Default Record Length of Dataset

LRECL=*nnn* determines the default record length (in bytes) of the dataset.

Possible values:	0, or 5 - 32767.
Default value:	0

This subparameter is used particularly to check for truncation and padding.

- For RECFM=V (B) the LRECL value includes a 4-byte record descriptor word.
- If LRECL = 0 is defined, the following applies:
 - With RECFM=V (B), LRECL defaults to BLKSIZE-4.
 - With RECFM=U, LRECL defaults to BLKSIZE.
 - With RECFM=F (B), the maximum record length in the Natural program being executed is taken when the file is opened. If no record length from a program is available when the file is opened, for example with OPEN=INIT, this leads to an error.

The LRECL specification only applies if no record length is predefined in the JCL or in the dataset DCB (OS/390 only).

Keyword Subparameters for AM=STD in OS/390 Environments

The following keyword subparameters are available: REREAD | FREE | BUFNO | DISP | VMAX

REREAD - Closing of Tape File Datasets

REREAD=*xxx* sets the REREAD option for the closing of the tape file:

ON	The REREAD option is set for the CLOSE SVC. This causes the volume to be repositioned to reprocess the dataset. This is the default value.
OFF	The REREAD option is not set for the CLOSE SVC.

FREE - Dataset De-allocation at File Closure

FREE=*xxx* determines whether the dataset is de-allocated when the file is closed:

ON	The FREE option is set for the CLOSE SVC, which means that the dataset is de-allocated when it is closed (and not at step termination).
OFF	The FREE option is not set for the CLOSE SVC. This is the default value.

BUFNO - Default Number of OS/390 I/O Buffers of Dataset

BUFNO=*nnn* defines the default number of OS/390 I/O buffers of the dataset.

Possible values	0 - 255.
Default value	0. In this case, OS/390 allocates five I/O buffers per default.

The number of I/O buffers can improve the performance of work file access dramatically. Note that the storage for I/O buffers is allocated below the 16 MB line.

Note:

The BUFNO specification applies only if no BUFNO value is predefined in the JCL.

DISP - Open Work File for Modification

DISP=*xxx* determines that the work file is opened for modification.

This corresponds to the JCL DD statement subparameter DISP=MOD.

MOD	New records are added at the end of the file.
NOMOD	The work file is rewritten from the start. This is the default value.

VMAX - Control LRECL for Variable Record Format

VMAX=*xxx* controls the LRECL setting for an output file with variable record format (RECFM=V).

ON	Providing a nonzero BLKSIZE value exists for the file, VMAX=ON sets LRECL=BLKSIZE-4 for variable record format, regardless of the LRECL setting in the DCB or the LRECL subparameter.
NAT	LRECL is set to the length +4 of the largest record in the application program if this value is less than LRECL in the DCB for the dataset.
OFF	LRECL from the DCB for the dataset is used. This is the default value.

Keyword Subparameters for AM=STD in VSE/ESA Environments

The following keyword subparameters are available: SYSNR | LABEL | REWIND

SYSNR - Logical VSE SYS Number

SYSNR=*nn* determines the logical VSE SYS number.

Possible values:	1 - 99.
Default value:	By default, the SYS number is identical to the work file number.

LABEL - Tape Label Processing

LABEL=xxx determines the tape label processing:

ON	The tape is in standard label format. This is the default value.
OFF	The tape is unlabeled with front tape mark.
NOTM	The tape is unlabeled without front tape mark.

REWIND - Action at File Closure

REWIND=xxx determines the action to be taken when a tape file is closed:

ON	The tape is rewound when the file is closed. This is the default value.
OFF	The tape is not rewound when the file is closed.
UNLOAD	The tape is unloaded when the file is closed.

Keyword Subparameters for AM=STD in BS2000/OSD Environments

The following keyword subparameter is available: DISP

DISP - File Open Mode

DISP=xxx determines the open mode of the file:

EXT	The open mode is set to EXTEND.
NOEXT	The open mode is set to the default value OUTPUT.

Keyword Subparameters for AM=CICS

The following keyword subparameters are available: TYPE | DISP

TYPE - Type of CICS Storage Medium

TYPE=xxxx specifies the type of CICS storage medium to be used:

MAIN	Temporary main storage.
AUX	Temporary auxiliary storage.
TD	Transient data.

The TYPE default value used depends on the DEST keyword subparameter setting. If the DEST subparameter value matches a valid CICS transient data queue, the TYPE keyword subparameter defaults to TD, otherwise MAIN will be taken as the default value.

DISP - CICS Storage Queue Disposition

DISP=(xxx,xxx) specifies the CICS storage queue disposition.

Possible value pairs are:

(NEW,KEEP)	The storage queue is deleted when the file is opened. This is the default value.
(NEW,DELETE)	The storage queue is deleted when the file is opened and when it is closed.
(OLD,DELETE)	The storage queue is deleted when the file is closed.
(OLD,KEEP)	The storage queue is not deleted.

Note:

The DISP specification does not apply to CICS extra-partition transient data queues.

Keyword Subparameters for AM=COMP

The following keyword subparameters are available: TYPE | BLOCKS | BLKSIZE

TYPE - Type of Storage Access

TYPE=xxx specifies the type of storage access to be used:

SHR	Shared access, that is, the work file is accessible by all users.
TID	The work file is only available to the current Com-plete terminal ID.
DYN	The work file is only available to the current terminal stack level.

BLOCKS - Number of Storage Blocks

BLOCKS=nnnn specifies the number of storage blocks to be allocated.

Possible values:	1 to 9999
Default value:	20

BLKSIZE - Size of Storage Blocks

BLKSIZE=nnnn determines the default block size (in bytes) of the dataset.

Possible values:	0, or 8 - 32767
Default value:	4628

UNIX and Windows

This parameter indicates the number of work files available.

Possible settings	0 - 32	Number of work files.
Default setting	32	
Dynamic specification	NO	
Specification within session	NO	

WORK=*nn*

If WORK is set to "*nn*" (in the range 1 - 32), this setting defines the highest work file number which is available for the Natural session. If a work file has been previously defined with a higher number, this new setting overrides the previous higher setting.